

3. How do Michigan's costs for renewable energy compare to the cost of existing generation and to the cost of new non-renewables generation today?

Although there are a number of entities that try to predict the future cost of energy, we think it is important to use as much Michigan specific information as possible when predicting future costs in Michigan. The average retail cost of a kilowatt-hour (kWh) in Michigan increased from 6.97 cents in 2000 to 10.37 cents in 2011, a growth rate averaging 4% a year over the period.³⁹ From 2005 to 2010, the growth rate averaged 7% per year. Due to deskewing changes the rates for residential ratepayers have gone up 45% over the same time frame.

The attached study, *25% by 2025: The Impact on Utility Rates of the Michigan Clean Renewable Electric Energy Standard*, was prepared to compare the cost of business as usual in Michigan (a combination of our non-renewable resources plus the additional 10% of renewable resources required by Public Act 295 of 2008), with adding an additional 1.5% of renewable energy per year through 2025. The study made the following findings:

- For the 14-year period of 1998 through 2011, total costs paid by Consumers Energy customers rose at an average annual rate of 3.6%.
- According to the MSPC 2012 Michigan Energy Appraisal, residential customers of Detroit Edison can expect to pay 13.5% more for electricity this year than last year, without accounting for higher usage due to the hot summer. Detroit Edison has estimated it will spend between \$1.3 and \$1.8 billion on pollution control equipment from 2012 to 2016. The company also has projected fossil fuel cost increases of \$530 million over the next four years, which alone would raise rates by 3.1% annually.
- Therefore, the business as usual used in the study is very conservative in that it uses the lower 3.5% increase per year in the costs of providing non-renewable resources in the future, as opposed to the higher 7% per year Michigan ratepayers have been experiencing since 2006.

The report then compared those business as usual costs with the cost of blending in new renewable assets at the rate of 1.5% per year. The study reviewed renewable contracts to date used a starting cost of \$73 per megawatt for renewable energy, assuming that number would rise due to inflation. The \$73 per megawatt number we now know to be more than \$20 more per megawatt above what is available today, and \$13 per megawatt above the anticipated costs if you removed the production tax credit. It concludes by finding:

- Even with that inflated cost, the study showed that the impact on rates would be less than ½ of 1% for the initial years and would put downward pressure on rates in the long term.

With the reduced cost of renewable energy being experienced today, Michigan's future investments in renewable energy would all put downward pressure on rates beginning

immediately.

One of the largest drivers of rate increases on the non-renewable generation is fuel costs. The cost of coal delivered to Michigan utilities has risen by 78% between 2006 and 2012 according to the Energy information Administration (from \$1.64/million Btu to \$2.92/million Btu). That increase is significantly more than the national average and currently represents the highest costs in the region.

Geography is probably the main reason for the coal price escalation. Michigan is further away from Appalachian and Powder River Basin mines than most other coal burning states. Roughly 75% of the cost of coal delivered to Michigan is transportation costs and it is estimated that diesel fuel accounts for half of the transportation cost. Note the run-up in diesel prices started in 2008 and is in large part what is driving coal prices in Michigan. Railroads simply passed diesel costs on to utilities per their contracts. It is estimated that it takes 6 gallons of diesel fuel to move one ton of coal to Western mines to Michigan. As oil prices continue to increase our cost of electricity will also follow.